



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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5/18/02  
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In re Application of:

Boris PECHENY

**RESPONSE UNDER 37 CFR § 1.116**  
**EXPEDITED PROCEDURE**

Application Serial No.: 09/263,068

Corres. and Mail

Examiner: Fleurantin, J.

Filing Date: March 8, 1999

**BOX AF**

Group Art Unit: 2172

Attorney Docket No.: 50277-0164

Client Docket No.: OJD-1997-039-01

COPY OF PAPERS  
ORIGINALLY FILED

For: LEXICAL CACHE

Box AF, DIRECTOR OF PATENTS AND TRADEMARKS  
Washington, DC 20231

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MAY 16 2002

Technology Center 2100

**AMENDMENT TRANSMITTAL LETTER**

Transmitted herewith is an amendment in the above-identified application.

FEE CALCULATION	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREV. PAID FOR	NO. OF EXTRA CLAIMS PRESENT	RATE	ADDITIONAL FEE
TOTAL CLAIMS	34	MINUS	34	0	\$18	\$ 0.00
INDEP. CLAIMS	6	MINUS	6	0	\$84	\$ 0.00
<input checked="" type="checkbox"/> Petition is hereby made under 37 CFR § 1.136(a) to extend the time for response to the Office Action of <u>February 4, 2002</u> to and through <u>May 6, 2002</u> , for an extension of: <input type="checkbox"/> One month (\$110) <input type="checkbox"/> Two months (\$400) <input type="checkbox"/> Three months (\$920) <input type="checkbox"/> Four months (\$1440)						\$ 0.00
TOTAL ADDITIONAL FEE DUE:						\$ 0.00

- ☐ Applicant claims small entity status. See 37 CFR § 1.27.
- ☒ No additional fee is required.
- ☐ Payment of \$ \_\_\_ by Credit Card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge payment of any fees associated with this communication or credit any overpayment to Deposit Account \_\_\_\_, including any filing fees under 37 CFR § 1.16 for presentation of extra claims and any patent application processing fees under 37 CFR § 1.17

I hereby certify that this correspondence and all correspondence identified as accompanying this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231 on .

Mae D. Snow

Date: 5/6/02

Respectfully submitted,

DITTHAVONG & CARLSON, P.C.

Stephen C. Carlson

Reg. No. 39929

Date: May 6, 2002

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Boris PECHENY

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**Reply under 37 CFR 1.116  
EXPEDITED PROCEDURE**

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For: LEXICAL CACHE

**BOX AF**Assistant Commissioner for Patents  
Washington, D.C. 20231COPY OF PAPERS  
ORIGINALLY FILED**RESPONSE UNDER 37 CFR 1.116**

Dear Sir:

This is in response to the final Office Action of February 4, 2002, in which claims XXX are pending.

The final Office Action rejected claims 1-4 and 16-19 under 35 U.S.C. § 102 as anticipated by *Li et al.* (US 5,774,588),<sup>1</sup> claims 5 and 20 as obvious under 35 U.S.C. § 103 based on *Li et al.* in view of *Levine et al.* (US 6,073,129) and claims 6-15 and 21-30 as obvious over *Li et al.*

The applicants wish to thank Examiners Fleurantin and Alam for the courtesy of a personal interview extended on April 22, 2002 to the applicant's representatives. During the

<sup>1</sup> There are conflicting statements in the final Office Action as to the basis of the rejection of claims 1-4 and 16-20. Although the summary of the rejection states that claims 1-4 and 16-20 were rejected over *Levine et al.* (US 6,073,129), the discussion of the merits of the rejection and citations referred to *Li et al.* instead. During the interview, the Examiner clarified that *Li et al.* was intended.

interview, it was agreed that the finality of the Office Action should be withdrawn at least for the following reasons:

The rejection is respectfully traversed because *Li et al.*, alone or in combination with *Levine et al.*, fails to disclose, teach, or otherwise suggest the limitations of the claims. For example, the claims require either “identifying a lexical container from among a plurality of lexical containers based on **a length of a key**” (independent claims 1, 16, and 31-32 and hence all the dependent claims) or “identifying a hash table from among a plurality of hash tables based on **a length of the key**” (independent claims 15 and 29). As recited, the key is used either to search for the string in the lexical container or hash table (e.g. “searching the lexical container for an entry associated with the string based on the key” in claims 1 and 16, as amended) or to store the string in the lexical container (“storing the string in an entry in the lexical container based on the key” in claims 31-32).

Provision of lexical containers or hash tables that are identified based on the length of the key advantageously makes possible each to be individually tuned (specification, p. 3). For example, as recited in dependent claims 33-34, a lexical container associated with a shorter key can be configured to hold more entries than a lexical container associated with a longer key. This feature, however, is not disclosed in *Li et al.*

*Li et al.* is directed to a method for comparing strings with entries of a lexicon with a fixed-length key. At step 120 of FIG. 1B, an incoming, unverified string 20 is processed to produce a fixed-length signature vector (col. 8:57-65), which is used as a key to search for entries in *Li et al.* data structures (col. 8:66-9:35). More specifically, the string is first converted into a bi-gram vector 22 of FIG. 4A (step 205 of FIG. 2; col. 6:51-52). The bi-gram vector 22 is a bit vector having a fixed length of  $26 \times 26 = 676$  bits, with its elements being “1’s and 0’s corresponding to whether each possible bi-gram of the English alphabet occurs in the string”

(col. 6:53-55). At step 210, the bi-gram vector 22 is then folded into a signature vector 25 having a fixed length of 85 bits (col. 6:59-67). This signature vector 25 is used to store and retrieve entries from the lexicon.

By contrast, *Li et al.* does not disclose a method in which a lexical container or hash table from among a plurality of lexicon based on “a length of the key” as recited in the claims. The signature vector 25 key is fixed length at 85 bits, and there thus is no need nor motivation in *Li et al.* to use that key’s constant length to identify a particular lexical container or hash table.

The portions of *Li et al.* cited in Office Action do not support the rejection. For the example, the Office Action contends that the identifying limitation can be read on “where, find a small subset of the lexicon which shares characteristics with the unverified string” at col.8:53–9:17. However, *Li et al.*’s does not disclose that its “characteristics” on col. 8:54 includes the length of key, but indicates rather that the characteristics include “some common feature with the unverified string in the sense that the bit pattern of at least one group in the candidate’s signature vector is the same as that of a group of the unverified string’s signature vector.” (col. 9:11-15). In other words, the shared characteristics are shared bi-grams. Accordingly, col. 8:53–9:17 does not disclose, teach, or otherwise suggest “identifying a lexical container ... based on a length of a key.”

Dependent claims 2-14, 17-20, and 33-34 are allowable for at least the same reason as their independent claims and are also separately patentable over the applied art on their own merits.


Therefore, the present application, as amended, overcomes the objections and rejections of record and is in condition for allowance. Favorable consideration is respectfully requested. If any unresolved issues remain, it is respectfully requested that the Examiner telephone the

undersigned attorney at 703-425-8516 so that such issues may be resolved as expeditiously as possible.

Respectfully Submitted,

DITTHAVONG & CARLSON, P.C.

5/6/2002  
Date

  
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Stephen C. Carlson  
Attorney/Agent for Applicant(s)  
Reg. No. 39929

10507 Braddock Rd  
Suite A  
Fairfax, VA 22032  
Tel. 703-425-8516  
Fax. 703-425-8518